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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/528,220

Filing Date: March 18, 2005

Appellant(s): TEVIS ET AL.

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Neil M. Batavia  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed on July 1, 2010 appealing from the Office action mailed on December 2, 2009.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6,899,752	SEKIOKA ET AL	5-2005
5,698,284	KUBOTA ET AL	12-1997
ABSTRACT OF JP07-073511A	UEMATSU	3-1995
5,282,917	DANELSKI	2-1994

6,472,026	MAAG ET AL	10-2002
4,303,696	BRACK	12-1981
5,795,642	ISHIKAWA ET AL	8-1998
5,417,164	NISHIDA ET AL	5-1995

*Examiner Note*

The AU 200214317A reference cited in the current Examiner's Answer is not provided here because (for convenience) instead of AU 200214317A to Sekioka et al, the Examiner relied on US 6,899,752 to Sekioka et al of the same patent family as AU 200214317A.

**(9) Grounds of Rejection**

*Examiner Note*

The Applicants correctly point out in the Appeal Brief that the primary reference of US 6,899,752 to Sekioka cited by the Examiner in the Final Office Action of December 2, 2009, is not available as prior art under 35 U.S.C. 102 (b) or (e) because it cannot claim priority to filing date of PCT/JP01/10065 of November 16, 2001 as being filed in Japanese language. Thus, the effective filing date of US 6,899,75 is May 16, 2003 (not November 16, 2001), i.e. it was filed after Appellants' effective filing date of October 8, 2002.

However, WO 0240607A1 and AU 200214317A (of the same patent family as US 6,899,752) were published in May 2002, and thus, are available as prior art under 35 U.S.C. 102 (a).

For this reason, claims are currently rejected on new grounds of rejection based on AU 200214317A of the *same patent family* as previously cited US 6,899,752.

Note that for convenience, the Examiner relied on column and lines of US 6,899,752 to Sekioka since US 6,899,752 and AU 200214317A are of the same patent family. For this reason, the current new grounds of rejection based on AU 200214317A of the same patent family as

previously cited US 6,899,752 to Sekioka are formally identical to the grounds of rejection discussed in the Final Office Action of December 2, 2009.

The following new grounds of rejection based on AU 200214317A to Sekioka et al of the same patent family as previously cited US 6,899,752 to Sekioka et al are applicable to the appealed claims:

Claims 25-35, 37, 39, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekioka et al (AU 200214317A) in view of Kubota et al (US 5698284), further in view of Ucmatsu (JP07-073511A), and further in view of Danelski (US 5282917).

Examiner Note: for convenience, the Examiner relied on column and lines of US 6,899,752 since US 6,899,752 and AU 200214317A are of the same patent family.

Sekioka et al discloses a method of making game tickets or cards (See column 9, lines 50-53) comprising forming a *latent* image by printing a latent image ink composition including an organic fluorescent substance which responds to an excitation wavelength range of 600-850 nm and emits fluorescence in a wavelength range of 651-900 nm, a quencher, and a curing resin composition to a plastic substrate (See column 2, lines 32-33) and curing the latent image ink composition (See column 3, lines 15-18); then applying UV curable resin (See column 8, lines 12-18) to the cured *latent* image layer to provide a protective film that is *hard* and tough, water-resistant, fouling resistant and scratch-resistant, and capable of protecting the latent image (See column 8, lines 5-28). The UV curing protective coating formed on the ink surface must not allow visibility of the latent image, while protecting the functions of the organic fluorescent substance and quencher to extend their usable life, and it is preferably transparent (See column

8, lines 34-40). There are no particular restrictions on the thickness of the film so long as the effect described above is exhibited (See column 8, lines 40-43). The latent image recorded by the ink composition of the invention may consist of numerals, letters, color tones, patterns, symbols, marks and the like which cannot be seen or are difficult to see with the human eye, not only under white light but also under ultraviolet or infrared light (See column 8, lines 54-58). The latent image is deciphered using a latent image data **deciphering apparatus** provided with an emitting element for irradiating the prints with the excitation wavelength, a receiving element for detecting the emission of fluorescence in the wavelength range emitted from the cured ink of the print, and a computer processor for deciphering the detected emission of fluorescence against a standard value (See Abstract).

As to three-layer protective film, Sekioka et al fails to teach that the protective film is formed from three layers using a first composition comprising a first energy-curable oligomer, a second composition comprising a second energy-curable oligomer and a third composition comprising a third energy-curable oligomer (Claim 25).

**Kubota et al** teaches that it is desirable to form a hard film 6, 9 for protecting an optical plastic card (See column 1, lines 4-8) from two (See Fig. 2), three (See Figs. 3, 4; Abstract), four or five layers (See column 9, lines 52-55), each layer being formed by applying a coating composition comprising **radiation curable oligomer** (See column 8, lines 1-4, 62-66; column 9, lines 3-7) to achieve resistance to abrasion at *lowered warpage* (See column 7, lines 736). The radiation-curable resin having a low shrinkage on curing is flexible, but is soft and has low resistance to abrasion (See column 7, lines 15-18). On the other hand, a radiation-curable resin having a large shrinkage on curing has excellent resistance to abrasion, although the warpage on

shrinkage is large (See column 7, lines 22-26). Therefore, the provision of a multilayered hard layer comprising layers formed by using radiation-curable resins in such a manner that the shrinkage on curing of the radiation-curable resins successively increases from the innermost layer toward the outermost layer, the thickness of the layers being successively reduced from the innermost layer toward the outermost layer, can offer an optical recording medium which has a lowered warpage and, by virtue of synergistic effect of the layers constituting the hard layer, has excellent pencil hardness and resistance to abrasion (See column 7, lines 26-36).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed a UV curing protective film in game tickets or cards of Sekioka et al from three layers using a first composition comprising a first radiation-curable oligomer, a second composition comprising a second radiation-curable oligomer and a third composition comprising a third radiation-curable oligomer such that the shrinkage on curing of the radiation-curable oligomer resins successively increases from the innermost layer toward the outermost layer, the thickness of the layers being successively reduced from the innermost layer toward the outermost layer, with the expectation of providing the desired lowered warpage of game tickets or cards, excellent pencil hardness and resistance to abrasion, as taught by Kubota et al, and since Sekioka et al does not put particular restrictions on the thickness of the protective film so long as it does not interfere with deciphering the latent image with a deciphering apparatus.

As to drying and partial curing, Kubota et al teaches that the layers may be formed by UV curing a previously applied layer before applying a next layer (See Fig. 3 and Example B-1) or the layers may be formed by wet-to-wet coating followed by simultaneous UV curing thereby

forming a laminate without creating any *clear* interface between the layers (See Fig. 4 and column 11, lines 25-28, column 12, lines 3-15). A coating composition for may be solventless or diluted with a **solvent** (See column 9, lines 42-43). The first layer a, the second layer b, and the third layer c formed by coating are delicately mixed together in the course of **air drying or thermodrying**, and the interface of layers become apparently eliminated before radiation curing (See column 14, lines 13-17). Then, a radiation is applied to conduct curing (See column 14, lines 17-18). The elimination of the interface results in improved bending strength (See column 14, lines 18-19).

Kubota et al fails to teach that the hard protective three-layer film is formed by drying and *partially* curing an applied layer before applying a subsequent layer followed by simultaneous curing of partially cured layers (Claim 25).

**Uematsu** teaches that forming a protective multilayered film in an optical recording medium by *partially* curing an applied layer before applying a subsequent layer followed by simultaneous curing of partially cured layers allows to obtain a high reliability optical recording medium having improved *interlaminar adhesion* and scratch resistance at the protective layer side (See Abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed a hard three-layer protective film in Sekioka et al in view of Kubota et al by drying and *partially* curing an applied layer before applying a subsequent layer followed by simultaneous curing of partially cured layers instead of fully UV curing a previously applied layer before applying a next layer, with the expectation of providing the desired improved interlaminar adhesion of the hard protective film, as taught by Uematsu.

As to applying an image ink to the outer surface of the second layer, as discussed above, Sekioka et al teaches that the UV curing protective coating is **transparent**; and *the latent image cannot be seen or are difficult to see with the human eye, not only under white light but also under ultraviolet or infrared light*. Therefore, the card will look like as a blank card without the visible images since the latent image is invisible to the human eye, not only under day light but also under ultraviolet or infrared light. Thus, although Sekioka et al does not explicitly disclose visible images, it should be reasonably assumed that visible images on the cards are implied in Sekioka et al.

Sekioka et al in view of Kubota et al fails to teach that visible image is provided the second protective layer (Claims 25 and 40).

However, it is a common knowledge that paper currency, stock certificates, insurance certificates, game cards, ID cards and documents **always** have **visible images** in addition to "latent images". Obviously visible images should not interfere with detection of "latent images" for possible fraud. Danelski is applied here to show that game tickets or cards are generally provided with concealed and visible images that are visible through a transparent (protective) film.

**Danelski** teaches that it is known to provide game tickets or cards such as lottery tickets, and novelty products with concealed images (See column 1, lines 20-26) such as images 32, 34 (See Fig. 1; column 4, lines 60-61) and with a visible ink image in a first pattern 22, 30 (See Figs. 1-2; column 4, lines 52-60) that is visible through overlying transparent film 40 (See column 2, lines 27-29; column 5, lines 6-9) by lithographically printing with UV curable ink (See column 6, lines 58-59). Danelski teaches that conventionally, concealed images are made

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visible only under light of a particular wavelength or when the message is moistened with water or visible only in darkness and after initial exposure to light (See column 1, lines 20-31); or only when the coating is scratched or rubbed off, as with an eraser or coin (See column 1, lines 35-38). Danelski teaches that the concealed images may be more conveniently revealed by removing the film 40 in selected areas (See column 5, lines 17-20; column 7, lines 20-23) without the prior art need for a special environment involving fluids, darkness, exposure to light, heat or the like (See column 7, lines 22-25).

In other words, Danelski teaches that game tickets or cards such as lottery tickets, and novelty products may be provided with *visible* images in addition to latent images, wherein the visible images are covered with a transparent film such that the image is protected by the transparent film. Danelski teaches that the concealed images may be revealed using fluids, darkness, exposure to light, heat or the like or advantageously by removing the transparent film in selected areas since the latter would not require a special equipment.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided game tickets or cards having latent images and a hard three-layer protective film in Sekioka et al in view of Kubota et al and Uematsu with a visible image by printing the visible image with UV curable ink on a partially cured second layer of the three-layer protective film such that the image would be visible through the transparent film, as taught by Danelski.

As to claim 26, Kubota et al teaches that the layers 6 may be formed by *gravure* coating, *roll coating*, Komma coating, spin coating, knife coating, *silk screen* coating, T-die coating, slide coating, slit reverse coating or the like (See column 9, lines 38-43).

As to claims 27 and 32, Kubota et al teaches that the coating composition may be solventless or diluted with a solvent (See column 9, lines 42-43). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used either water or an organic solvent for diluting the coating composition in Kubota et al because Kubota et al does not limit its teaching to a particular solvent.

As to claims 28-29, examples of the oligomer in Kubota et al include epoxy acrylate, urethane acrylate, polyester acrylate (See column 8, lines 37-39).

As to claims 30-31, Appellants' specification does not provide experimental data showing criticality of claimed ranges. It is held that concentration limitations are obvious absent a showing of criticality. Akzo v. E.I. du Pont de Nemours 1 USPQ 2d 1704 (Fed. Cir. 1987). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant concentration parameters

(including those of claimed invention) in the cited prior art through routine experimentation depending on particular coating composition in the absence of a showing of criticality.

As to claims 33-35, the limitations of dependent claims 33-35 are described in the specification as being not subject matter of claimed invention (See Published Application, P23. The Applicants' specification discloses that the first, second and third compositions can optionally contain other components including, but not limited to, a surfactant, a thickener, an absorbent, a pigment or dye, which are commonly used in the art).

As to claim 36, Kubota et al teaches that a coating composition for may be solventless or diluted with a solvent (See column 9, lines 42-43). The first layer a, the second layer b, and the third layer c formed by coating are delicately mixed together in the course of air drying or thermodrying, and the interface of layers become apparently eliminated before radiation curing (See column 14, lines 13-17). Then, a radiation is applied to conduct curing (See column 14, lines 17-18). The elimination of the interface results in improved bending strength (See column 14, lines 18-19). The above coating may be carried out after dilution with a solvent to a suitable extent (See column 14, lines 19-20).

As to aqueous ink of claim 39, it is well known in the art that UV curable ink for lithographic printing may be either water based or oil based\*. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used water based ink for lithographic printing of a visible image since Danelski does not limit its teaching to particular UV curable ink.

Claims 25-35, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekioka et al '317 in view of Kubota et al '284, further in view of Maag et al (US 6472026), further in view of Uematsu '511, and further in view of Danelski '917.

Sekioka et al, Kubota et al and Danelski are applied here for the same reasons as above.

Kubota et al teaches that the layers may be formed by UV curing a previously applied layer before applying a next layer (See Fig. 3 and Example B-1) or the layers may be formed by wet-to-wet coating followed by simultaneous UV curing thereby forming a laminate without creating any *clear* interface between the layers (See Fig. 4 and column 11, lines 25-28, column 12, lines 3-15).

Kubota et al fails to teach forming the hard layer having three-layer structure by *partially* curing an applied layer before applying a subsequent layer followed by simultaneous curing of partially cured layers (Claim 25).

Maag et al teaches that a process of forming a multilayer structure may be carried out in different ways: (i) by applying the individual lacquer layers in each case wet-on-wet, *optionally* after a short flash-off phase (claimed drying step), and curing the total multi-layer lacquer finish with a single final irradiation operation (See column 8, lines 51-60); (ii) by exposing each lacquer layer of the multilayer structure in each case separately to complete curing (See column 8, lines 60-63); (iii) by curing in each case *two successive* lacquer layers with a single common irradiation operation, and curing the underlying or overlying lacquer layer with a separate irradiation operation (See column 8, lines 63-66); (iv) by effecting *intermediate curing* of in each case one or two successive lacquer layers, followed by undertaking the complete curing of the total structure (See column 8, line 66 to column 9, line 5).

Uematsu teaches that forming a protective multilayered film in an optical recording medium by *partially* curing an applied layer before applying a subsequent layer followed by simultaneous curing of partially cured layers allows to obtain a high reliability optical recording medium having improved *interlaminar adhesion* and scratch resistance at the protective layer side (See Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed a multilayer protective film of Sekioka et al in view of Kubota et al by using *any* technique from (i) to (iv) described in Maag et al depending on particular use of a final product: for example, by using wet-on-wet technique if a laminate without any *clear* interface between the layers is desired, as taught by Kubota et al, or by *partially* curing an applied layer before applying a subsequent layer followed by simultaneous curing of partially cured layers if improved interlaminar adhesion is desired, as taught by Uematsu.

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over a combination of Sekioka et al '317, Kubota et al '284, Uematsu '511 and Danelski '917 or over a combination of Sekioka et al '317, Kubota et al '284, Maag et al '026Uematsu '511 and Danelski '917, as applied above, and further in view of Brack (US 4303696).

As to claim claimed additive, Kubota et al teaches that *silicone* is added to the outermost layer to improve the **slip** property (See column 17, lines 30-50).

Kubota et al fails to teach that a slip additive, a release additive and a wax are added to the third composition.

**Brack** teaches that the materials having good **slip or release** properties, are generally lipophilic, and can comprise *waxes*, silanes, siloxanes, *silicones*, fluorocarbons, and the like (See column 1, lines 63-66). Thus, silicone has both slip and release properties. Therefore, silicone of Kubota et al reads on both claimed slip additive and a release additive because claim 12 does not recite them being different additives.

As to a combination of silicone and wax, it is well settled that it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition which is to be used for the very same purpose.

Therefore, it is *prima facie* obvious to combine silicone and wax to provide slip, release properties.

Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over a combination of Sekioka et al '317, Kubota et al '284, Uematsu '511 and Danelski '917 or over a combination of Sekioka et al '317, Kubota et al '284, Maag et al '026Uematsu '511 and Danelski '917, as applied above, and further in view of Ishikawa et al (US 5795642).

Kubota et al teaches that the coating composition may be diluted with a solvent (See column 9, lines 42-43). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used either water or an organic solvent for diluting the coating composition in Kubota et al because Kubota et al does not limit its teaching to a particular solvent. Obviously, solvent is evaporated before curing.

Kubota et al fails to teach that the drying steps are performed by a dryer at a temperature of from 230 <sup>0</sup>F to 390 <sup>0</sup>F in the presence of a large flow of air volume.

However, it is a common knowledge in the art that drying off a solvent may be carried out by hot air, as evidenced by Ishikawa et al (See column 16, lines 48-52) (Ishikawa et al teaches that drying of applied coating layer may be carried out by contacting the layer with heated gas (hot air), and the degree of drying can be controlled by adjusting the temperature and the feed rate (flow speed) of hot air). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant drying parameters (including those of claimed invention) in the cited prior art through routine experimentation depending on particular coating composition in the absence of a showing of criticality.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure as discussed in the Non-Final of 7/29/2009.

\* US 5,417,164 to Nishida et al is cited here to show that water based ink or oil based ink is suitable for lithographic printing (See column 4, lines 32-33).

#### **(10) Response to Argument**

##### **I. U.S. Patent No. 6,899,752 to Sekioka et al. does not qualify as prior art against claims 25-37 and 39-40 of the present application under any of the paragraphs of 35 U.S.C. 102.**

Appellants submit that the present application properly claims priority to provisional application serial number 60/416,999, filed on October 8, 2002. However, Sekioka et al. was filed on May 16, 2003, or more than 7 months after the priority date of the present application. Thus, Sekioka et al. is not available as prior art under 35 U.S.C. 102 (a), (b), or (e). Furthermore, Sekioka et al. claims priority to PCTtJP01t10065 which published in Japanese on May 23, 2002. Thus, PCT/JP01/10065 is not available as prior art under 35 U.S.C. 102 (b) or (e) and the Examiner has never provided any information regarding the content of the Japanese publication.

As such, it is respectfully submitted that the Examiner's rejections of claims 25-37 and 39-40 is improper and should be reversed.

The Examiner agrees with the Appellants that US 6,899,752 to Sekioka et al is not prior art under 35 U.S.C. 102 (a), (b), or (e). For this reason, the Examiner introduced new grounds of rejection based on AU 200214317A of the same patent family as US 6,899,752.

**II. Independent claims 25 and 40 patentably define over Sekioka et al. in any proper combination.**

Appellants believe that Sekioka et al. is not available as prior art and should not be considered, in an abundance of caution, however, Appellants present arguments herewith as to why the presently pending claims patentably define over Sekioka et al. The present application is directed to methods for applying coating compositions to an article. The claimed methods of the present application provide numerous advantages over prior art techniques. For example, the claimed methods produce game cards with much whiter game play data area. In addition, backside wick test results are much improved and no bleed detecting dye is necessary in the lower blocking layer because of the improved barrier properties. Ticket opacity is also much improved.

The Examiner respectfully disagrees with this argument. First of all, it is noted that the features upon which applicant relies (i.e., *game cards with much whiter game play data area and lower blocking layer of the improved barrier properties*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Second, the game card of the cited prior art would have the above mentioned properties since it would be produced by the process substantially identical to that of claimed invention.

Third, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

**A. Independent claims 25 and 40 are patentably distinct over Sekioka et al. in view of U.S. Patent 5,698,284 (Kubota et al.), further in view of JP 07-073511A (Uematsu), and further in view of U.S. Patent 5,698,284 (Danelski).**

The presently pending claims require various limitations, including:

- 1) **applying a first composition** comprising a first-curable oligomer to the outer surface of the game card to produce a first layer;
- 2) **applying a second composition** comprising a second energy-curable oligomer to the outer surface of the first layer to produce a second layer;
- 3) **applying an ink** to the outer surface of the first layer, or the outer surface of the second layer, or to both, so as to form an image; and
- 4) **applying a third composition** comprising a third energy-curable oligomer to the outer surface of the second layer to produce a third layer.

By sharp contrast, none of the cited references teach or suggest forming an energy-curable oligomer layer having an outer surface and applying an ink to such outer surface, and applying another energy-curable oligomer layer over the outer surface. For instance, Sekioka et al. describes an ink composition that is formed, in part, with a curing resin composition. Col. 2, lines 61-65; Col. 8, lines 5-10. The Final Office Action describes that Sekioka et al. discloses a method in which a "UV curable ink resin composition" is applied to a plastic substrate and then another "UV curable resin" is applied to the ink. The UV curable ink resin layer differs from the presently pending claims, which require forming an energy-curable oligomer layer, and then applying an ink to the outer surface of such layer. Importantly, the ink composition of Sekioka et al. is not applied to the outer surface of an energy-curable oligomer layer, as required by the pending claims, but is instead applied directly to a plastic substrate. In other words, there is absolutely no teaching or suggestion in Sekioka et al. of an energy-curable oligomer layer being formed, after which an ink is applied to the surface of such layer, after which another energy-curable layer is formed and applied to the surface of such layer. Kubota et al., Uematsu, and Danelski fail to remedy this deficiency. As such, it is respectfully submitted that the pending claims patentably define over the cited references.

The Examiner respectfully disagrees with this argument. Sekioka et al teaches forming a latent image on a substrate that is *invisible* to a human eye not only under day light but also under ultraviolet or infrared light, and covering it with a **transparent** UV-curing protective film. Independent claims 25 and 40 are open-ended and, thus, do not exclude forming latent images on a substrate.

**Kubota** on the other hand teaches that the provision of a hard layer as a multilayered structure comprising layers formed by using radiation-curable **oligomer** resins in such a manner that the shrinkage on curing of the radiation-curable resins successively increases from the innermost layer toward the outermost layer, the thickness of the layers being successively reduced from the innermost layer toward the outermost layer, can offer an optical recording medium which has a *lowered warpage* and, by virtue of synergistic effect of the layers constituting the hard layer, has *excellent pencil hardness and resistance to abrasion*. Therefore,

one of ordinary skill in the art would have a clear motivation and a reasonable expectation of success in forming a UV-curing protective film of Sekioka as a three-layered structure using a first composition comprising a first radiation-curable oligomer, a second composition comprising a second radiation-curable oligomer and a third composition comprising a third radiation-curable oligomer such that the shrinkage on curing of the radiation-curable oligomer resins successively increases from the innermost layer toward the outermost layer, the thickness of the layers being successively reduced from the innermost layer toward the outermost layer, with the expectation of providing the desired lowered warpage of game tickets or cards, excellent pencil hardness and resistance to abrasion, as taught by Kubota et al, and since Sekioka et al does not put particular restrictions on the thickness of the protective film so long as it does not interfere with deciphering the latent image with a deciphering apparatus.

**Uematsu** teaches that forming a protective multilayered film in an optical recording medium by *partially* curing an applied layer before applying a subsequent layer followed by simultaneous curing of partially cured layers allows to obtain a high reliability optical recording medium having improved *interlaminar adhesion* and scratch resistance at the protective layer side (See Abstract). Therefore, one of ordinary skill in the art would have a clear motivation and a reasonable expectation of success in forming a hard three-layer protective film in Sekioka et al in view of Kubota et al by drying and *partially* curing an applied layer before applying a subsequent layer followed by simultaneous curing of partially cured layers instead of fully UV curing a previously applied layer before applying a next layer, with the expectation of providing the desired improved interlaminar adhesion of the hard protective film, as taught by Uematsu.

**Danelski** teaches that game tickets or cards such as lottery tickets, and novelty products may be provided with **visible** images in addition to latent images, wherein the visible images are covered with a transparent film such that the image is protected by the transparent film. Danelski teaches that the concealed images may be revealed using fluids, darkness, exposure to light, heat or the like **or** by removing the transparent film in selected areas. Therefore, one of ordinary skill in the art would have reasonable expectation of success in providing game tickets or cards having latent images and a hard three-layer protective film in Sekioka et al in view of Kubota et al and Uematsu with a visible image by printing the visible image with UV curable ink on a

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second layer of the three-layer protective film such that the image would be visible through the transparent film.

According to MPEP, to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation in the references themselves to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Since the combination of Sekioka et al, Kubota et al, Uematsu and Danelski meets all three basic criteria, a prima facie case of obviousness has been established.

Appellants submit that even if the other references remedied the deficiencies of Sekioka et al. (which Appellants do not believe to be the case), Sekioka et al. teaches away from the limitations of the pending claims. The purpose of the protective film of Sekioka et al. is to prevent anything from concealing the ink composition underneath. Such a film teaches away from the presently pending claims in that the claims require applying an ink to an outer surface of the claimed first or second layer. A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. *In re Gurley.*, 27 F.3d 551,553 (Fed. Cir. 1994). Furthermore, a reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. M.P.E.P. { }2141.02. The description of Sekioka et al. expressly teaches away from applying an ink to an outer surface of a first or second layer in that an ink composition is already present underneath the protective film and used to form a latent image. The description makes it clear that the protective film is designed to prevent obstructions from blocking the covered ink composition.

The Examiner respectfully disagrees with this argument. As discussed above, the purpose of the transparent protective film of Sekioka et al. is to protect the latent images from abrasion and to prevent anything from interfering with deciphering them with a special deciphering apparatus. Since the latent images are *invisible* to the human eye, not only under white light but also under ultraviolet or infrared light, it could be reasonably assumed that visible images printed on a second transparent protective layer of Kubota that are *visible* to the human eye under white light would not interfere with deciphering the invisible latent images with a special deciphering

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apparatus. Moreover, Danielski shows that visible and latent images may not overlap on the cards.

Thus, in contrast to Appellants' assertion, a person of ordinary skill, upon reading the reference of Sekioka, would not be discouraged from applying an ink to an outer surface of a first or second layer to form a visible image in addition to the invisible latent image since otherwise the card would be blank.

Appellants submit that the claims patentably define over Sekioka et al. in any proper combination. For example, in a previous Office Action it was stated that because "Danielski teaches that game tickets or cards are generally provided with visible image by lithographically printing with UV curable ink...in addition to concealed images...it would have been obvious to one or ordinary skill in the art at the time the invention was made to have printed a visible image on a second layer." Page 11, July 29, 2009 Office Action. However, as stated above, Sekioka et al. teaches away from applying an ink to the outer surface of the product described therein. Furthermore, Danielski only describes printing onto a removable film to expose a concealed image. As described in Danielski, "[r]emoval of the film from the inked surface portion also removes the ink in one of the selected patterns to reveal a desired pattern of deinked outer surface and thereby render visible the previously concealed message." In other words, the ink is only present on the outer surface because the outer surface is removable to reveal a concealed message. Such a configuration is the complete opposite of the configuration described in Sekioka et al. In response, the Final Office Action asserts that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to have printed a visible image with UV curable ink on a second layer of three-layer protective film of Sekioka et al. in view of Kubota et al. such that the visible [image] would be protected with a protective film." Page 5, December 2, 2009 Final Office Action.

The Examiner respectfully disagrees with this argument. Sekioka et al teaches that the UV curing protective coating is transparent; and the *latent* image cannot be seen or are difficult to see with the human eye, not only under white light but also under ultraviolet or infrared light. Therefore, the card will look like as a blank card without the visible images since the latent image is invisible to the human eye, not only under day light but also under ultraviolet or infrared light. Thus, Sekioka et al implies the presence of visible images on cards.

**Danielski** teaches that game tickets or cards such as lottery tickets, and novelty products may be provided with ***visible*** images in addition to latent images, wherein the visible images are covered with a transparent film such that the image is protected by the transparent film. Danielski teaches that it was known in the art to reveal concealed images using fluids, darkness, exposure

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to light, heat or the like but it is more advantageous to reveal the concealed images by removing the transparent film in selected areas since the latter would not require special equipment.

Thus, in contrast to Appellants' assertion that Danielski only describes printing onto a removable film to expose a concealed image is incorrect because Danielski describes removing the transparent film in selected areas as one of various different techniques of revealing concealed images. Thus, it is irrelevant whether or not the transparent film is removable in selected areas, because Danielski is applied for the teaching that visible images may be printed on the cards in addition to concealed images, and the visible images may be covered with a transparent film.

Appellants submit that none of the cited references teach or suggest applying an ink to the outer surface of an energy-curable oligomer layer, as required by the pending claims. As such, it is respectfully submitted that the presently pending claims patentably define over the cited references.

The Examiner respectfully disagrees with this argument. Danielski teaches expressly covering the visible image with a transparent film 40 (See above). Therefore, one of ordinary skill in the art would have reasonable expectation of success in providing game tickets or cards having latent images and a hard three-layer protective film in Sekioka et al in view of Kubota et al and Uematsu with a visible image by printing the visible image with UV curable ink on a second layer of the three-layer protective film such that the image would be visible through the transparent film.

**B. Independent claim 25 is patentably distinct over Sekioka et al. in view of Kubota et al., further in view of U.S. Patent 6,472,026 (Maag et al.), further in view of Uematsu and further in view of Danielski.**

Appellants submit that for at least the reasons above, and because Maag et al. fails to remedy the deficiencies noted above, it is respectfully submitted that the presently pending claims also patentably define over Sekioka et al. in view of Kubota et al., further in view of Maag et al., further in view of Uematsu, and further in view of Danielski.

The Examiner respectfully disagrees with this argument for the reasons discussed above.

**C. Dependent claims 26-37 and 39 patentably define over any proper combination of Sekioka et al., Kubota et al., Uematsu and Danelski, Maag et al., U.S. Patent 4,303,696 (Brack), and U.S. Patent 5,795,642 (Ishikawa et al.).**

Appellants submit that dependent claims 26-37 and 39 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over a variety of references. However, for at least the reasons discussed above with respect to independent claims 25 and 40, it is respectfully submitted that the presently pending dependent claims patentably define over the cited references, either alone or in any proper combination. For instance, dependent claims 30 and 31 require the first oligomer and second oligomer to be present from 10% to 40% by weight of the first composition and second composition and the third oligomer to be present from 15% to 50% by weight of the third composition, respectively. There is absolutely no teaching provided for such ranges and it is clear from the disclosure that such ranges are important to achieving the inventive characteristics of the claimed products.

The Examiner respectfully disagrees with this argument. First of all, claims neither recite products nor their inventive characteristics. Second, Applicants' assertion of the importance of claimed ranges to achieving the inventive characteristics of the claimed products is a pure allegation because the specification provides NO *experimental* data showing criticality of claimed ranges. It is held that concentration limitations are obvious absent a showing of criticality. *Akzo v. E.I. du Pont de Nemours* 1 USPQ 2d 1704 (Fed. Cir. 1987). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant concentration parameters (including those of claimed invention) in the cited prior art through routine experimentation depending on particular coating composition in the absence of a showing of criticality.

Appellants further submit that similarly, dependent claim 39 requires a water-based ink. As discussed above, Sekioka et al. plainly states that the protective film described therein "must be hard and tough, water-resistant, fouling resistant and scratch resistant, and capable of... permitting reliable discrimination of the latent image." Col. 8, lines 5-10 (emphasis added). As such, there can be no question that dependent claim 39 patentably defines over Sekioka et al. in any proper combination since the film of Sekioka et al. would be resistant to a water-based ink. For the reasons stated above, it is Appellants' position that the Examiner's rejection of claims has been shown to be untenable and should be reversed by the Board.

The Examiner respectfully disagrees with this argument. In contrast to Appellants' assertion, Sekioka et al. plainly states at Col. 8, lines 5-10, that the **CURED** protective film described therein "must be hard and tough, water-resistant, fouling resistant and scratch resistant, and capable of... permitting reliable discrimination of the latent image." However,

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according to the Examiner's rejection (and according to claim 40), the water-based ink is applied to **PARTIALLY** cured second layer (which is not water-resistant yet) before applying the third layer.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Elena Tsoy Lightfoot /

Primary Examiner, Art Unit 1715

This examiner's answer contains a new ground of rejection set forth in section **(9)** above.

Accordingly, appellant must within **TWO MONTHS** from the date of this answer exercise one of the following two options to avoid *sua sponte* **dismissal of the appeal** as to the claims subject to the new ground of rejection:

**(1) Reopen prosecution.** Request that prosecution be reopened before the primary examiner by filing a reply under 37 CFR 1.111 with or without amendment, affidavit or other evidence. Any amendment, affidavit or other evidence must be relevant to the new grounds of

rejection. A request that complies with 37 CFR 41.39(b)(1) will be entered and considered. Any request that prosecution be reopened will be treated as a request to withdraw the appeal.

**(2) Maintain appeal.** Request that the appeal be maintained by filing a reply brief as set forth in 37 CFR 41.41. Such a reply brief must address each new ground of rejection as set forth in 37 CFR 41.37(c)(1)(vii) and should be in compliance with the other requirements of 37 CFR 41.37(c). If a reply brief filed pursuant to 37 CFR 41.39(b)(2) is accompanied by any amendment, affidavit or other evidence, it shall be treated as a request that prosecution be reopened before the primary examiner under 37 CFR 41.39(b)(1).

Extensions of time under 37 CFR 1.136(a) are not applicable to the TWO MONTH time period set forth above. See 37 CFR 1.136(b) for extensions of time to reply for patent applications and 37 CFR 1.550(c) for extensions of time to reply for ex parte reexamination proceedings.

**A Technology Center Director or designee must personally approve the new ground(s) of rejection set forth in section (9) above by signing below:**

Gregory L Mills

Conferees:

/Gregory L Mills/

Supervisory Patent Examiner, Art Unit 1700

/Timothy H Meeks/

Supervisory Patent Examiner, Art Unit 1715